

Remarks/Arguments:

Claim Rejections Under 35 U.S.C. §102 and §103

Claims 17-25, 27-30 and 35 stand rejected under 35 U.S.C. 102(b) as anticipated by Hsu (US 2001/0013732). Claims 26 and 31-33 stand rejected under 35 U.S.C. 103(a) as unpatentable over Hsu in view of Stiel (US 6,543,355). Claim 34 stands rejected under 35 U.S.C. 103(a) as unpatentable over Hsu in view of Puschnerat (US 5,950,538). Claims 36-38 stand rejected under 35 U.S.C. 103(a) as unpatentable over Hsu in view of Hajek et al. (US 6,408,748). Applicants traverse these rejections.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. §2131 *citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"To establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. §2143. Additionally, as set forth by the Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007), it is necessary to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior art elements in the manner claimed.

Independent claim 17 recites "[a] rotation body for a printing machine, comprising: a stator including at least one stator winding, the stator having a support end and a free end; and a rotor positioned about and enclosing the stator free end, the rotor including at least one permanent magnet and positioned for rotation relative to the stator, the rotor extending from a first bearing to a second, spaced apart bearing and the at least one permanent magnet provided over substantially all of the area along the longitudinal axis of the rotor between the first and second bearings, wherein current flowing through the stator winding interacts with the at least one permanent magnet and generates a torque acting on the rotor."

With the claimed configuration, the stator has a support end and a free end which is enclosed within the rotor. Such a configuration generally creates a magnetically sealed system such that magnetic effects on neighboring metallic objects can be minimized as explained in the original application at page 4, last paragraph. Furthermore, such compact structure provides a compact configuration such that the rotation body can provide a bearing at one or both ends of the cylinder or roller body as shown in Figs. 4a and 4b.

The Office Action cites to Hsu as teaching a stator 1 with a winding 12 about a core 11. The Action further indicates that the free end of the stator 1 is to the left side of the Fig. 6. Hsu explains in paragraphs [0020] and [0021] that the core 11 is secured to a stem 21 which extends from a base 22 of the stator holder 2. Applicants respectfully submit that the base of the stator holder is the connection or support portion of the stator and can not be considered a free end.

The Office Action also indicates that the rotor 3 is supported on bearings 34 and 32, indicating that "the foot portion 32, 321 of the cylinder 31 of the rotor 3 supports the rotor 3 and thus is a bearing. . . ." Applicants respectfully disagree with this interpretation of Hsu.

Contrary thereto, Hsu explains in paragraph [0026] that "[t]he driving shaft 4 is rotatably mounted through a shaft hole 50 formed in a central portion of a closed-end plate 51 of the housing by shaft bearing 40, having an inner end portion 41 of the shaft 4 coaxially secured with the central hub portion 321 of the cylinder member 31 of the outer rotor 3 about the longitudinal axis X, . . ." (emphasis added). Paragraph [0030] further explains that "[t]he shaft 4 is coaxially secured with the central hub portion 321 of the cylinder member 31 of the outer rotor 3 and will be rotated synchronously with the rotation of the outer rotor 3." (emphasis added).

It is clear that the central hub portion 321 and the cylinder member 31 are connected to the shaft 4 and rotate therewith. The shaft 4 does not provide a bearing for the cylinder member 31 of the rotor 3 at the point (central hub portion 321) where they are interconnected. Instead, the shaft 4 and the rotor 3 connected thereto are supported by shaft bearing 40 as explained in paragraph [0026] and shown in Fig. 6. The magnet 30 does not extend over substantially all of the area long the longitudinal axis of the rotor between the bearing 34 and the bearing 40. Furthermore, since the magnet 30 is within the cylinder member 31 and the bearing 40 is outside of the closed cylinder member 31, the magnet 30 can not extend, nor would one skilled in the art consider extending the magnet 30 to the bearing 40.

Applicants respectfully submit that Hsu fails to teach or suggest each limitation of the claimed invention. Stiel and Puschnerat are each cited for a limited purpose with respect to a respective dependent claim and do not overcome the shortcomings of Hsu.

It is respectfully submitted that independent claim 17 is in condition for allowance. Claims 18-35 each depend from claim 17 and are therefore allowable for at least their dependency on allowable claim 17.

Independent claim 36 recites "[a] method of driving a cylinder or roller of a printing machine, the method comprising: providing at least one rotation body comprising: a stator supported by the printing machine and including at least one stator winding; and a rotor including at least one permanent magnet and positioned for rotation relative to the stator, the rotor extending from a first bearing to a second, spaced apart bearing and the at least one permanent magnet provided over substantially all of the area along the longitudinal axis of the rotor between the first and second bearings; positioning a portion of a first end of the cylinder or roller about the rotor such that the rotor defines a bearing therefore; positioning a portion of a second end of the cylinder or roller about a secondary bearing; and selectively providing current through the stator winding."

Similarly, independent claim 37 recites "[a] rotation assembly for a printing machine, comprising: a rotation body including a stator including at least one stator winding and a rotor including at least one permanent magnet and positioned for rotation relative to the stator, the rotor extending from a first bearing to a second, spaced apart bearing and the at least one permanent magnet provided over substantially all of the area along the longitudinal axis of the rotor between the first and second bearings, wherein current flowing through the stator winding interacts with the at least one permanent magnet and generates a torque acting on the rotor; a cylinder body or roller body having opposed first and second ends with the rotor received in and rotatably supporting the first end; and a secondary bearing element rotatably supporting the second end."

As explained above, Hsu does not teach or suggest the rotor and stator configuration as recited in the claims. Furthermore, contrary to the assertion in the Office Action, Hajek et al. does not teach positioning a portion of a first end of the cylinder or roller about the rotor such that the rotor defines a bearing therefore as recited in the claims. Hajek et al. explains in the paragraph beginning at column 10, line 5 that the rotor 118 includes a threaded shank 204 which is screwed into a journal 117 of the cylinder 116 and a separate bearing 122 is provided for the cylinder 116.

It is respectfully submitted that the cited references fail to teach each limitation of the claims and that independent claims 36 and 37 are in condition for allowance. Claim 38 depends from claim 37 and is therefore allowable for at least the reasons set forth above. Claim 38 further recites that the secondary bearing element is a rotation body with a stator and rotor. Neither Hsu nor Hajek et al. teaches or suggest a cylinder or roller body supported by a pair of rotation bodies.

It is respectfully submitted that each of the pending claims is in condition for allowance. Early reconsideration and allowance of each of the pending claims are respectfully requested.

If the Examiner believes an interview, either personal or telephonic, will advance the prosecution of this matter, the Examiner is invited to contact the undersigned to arrange the same.

Respectfully submitted,


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